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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

APPLICANT: Robert H. Wollenberg

EXAMINER: Jeffrey S. Lundgren

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FOR: HIGH THROUGHPUT SCREENING
METHODS FOR FUEL COMPOSITIONS

DATED: March 25, 2009

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P.O. Box 1450
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APPELLANT'S REPLY BRIEF


Sir:

In response to the Examiner's Answer mailed January 26, 2009, Appellant respectfully submits that based on at least the arguments provided in the Appeal Brief of September 11, 2008, appealed Claims 1-17, 62 and 63 are patentable over the applied references. The following comments are respectfully submitted in order to address statements made in the Examiner's Answer.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (a)

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Dated: March 25, 2009


Michael E. Carmen

I. Rejection of Appealed Claim 16 under 35 U.S.C. §112, Second Paragraph, as Indefinite

Appellant respectfully disagrees with the Examiner's statement in section 10.1 on pages 8 and 9 of the Examiner's Answer where the Examiner sets forth his reasoning in rejecting appealed Claim 16 under the second paragraph of 35 U.S.C. §112 as being as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner's reasoning is as follows [*italics in original*]:

“Appellant is correct that the specification does disclose, albeit in a very generic description, that ‘deposit formation data results’ can be further ‘used’, such as the section cited by Appellant:

‘This information may also allow for calculating necessary changes of the additives and fuels at the least cost.’

Specification, page 6, lines 9 and 10.

However, this alleged support is insufficient. Neither this passage nor any other in Appellant's disclosure teaches how the claimed ‘deposit formation data results’ serve as a ‘basis for obtaining a result of further calculations.’ Appellant appears to overlook the fact that there is a requirement to *clearly and definitively* connect the limitation of the “deposit formation data results” of claim 1 with the ‘further calculations’ of claim 16. The blank use of the term ‘basis’ does not set forth any clearly defined metes and bounds. For example, in reference to the above-captioned portion from the specification and its adjacent disclosure within the same paragraph, one still cannot reasonably determine what deposit formation data results are utilized, the manner in which the data serves for further calculation, nor what calculations are carried out (note: the term ‘basis’ does not even appear in this passage). Appellant suggests the feature ‘costs’ but does not show how this feature is derived from the ‘basis’ of ‘deposit formation data results.’ Therefore, the claim limitation of ‘using the results of step (b) [i.e., deposit formation data results] as a basis for obtaining a result of further calculations’ is indefinite.”

In contrast to the Examiner's reasoning, the specification most certainly allows for one skilled in the art to understand what is claimed when the claim is read in light of the specification. See, *Morton International Inc. v. Cardinal Chemical Co.*, 28 USPQ2d 1190,

1194-95 (CAFC 1993). As previously stated in the Appeal Brief, the specification sets forth on page 6, lines 2-8 that adding the information related to the deposit formation data of each of the stored compositions, i.e., the results of step (b), substantially facilitates the selection of candidate compositions capable of successfully carrying out the deposit formation tests under the desired operating conditions or statutory requirements. First, one skilled in the art would readily understand that the data obtained from a plurality of tested different fuel additive composition samples must be capable of meeting desired operating conditions or statutory requirements in order to be identified as leading compositions. Accordingly, by storing this information, i.e., the results of step (b), in a combinatorial library, rapid selection of multiple fuel compositions in response to new requirements for a given test becomes another piece of information in addition to, for example, storage stability, of the cataloged compositions.

Second, one skilled in the art would also readily understand that this information may also allow for calculating necessary changes of the additives and fuels not only at the least cost, but to also assist in meeting desired operating conditions or statutory requirements. For example, if a selected composition meets one statutory requirement but not another, then the composition may have to be changed in order to meet all of the requirements. This is further set forth in the specification on page 22, lines 8-11 where:

“The database can be used to find optimum combinations for a desired product stream, and can be particularly useful when the desired product stream varies depending on market factors. When the product requirements change, appropriate combinations can be selected to prepare the desired product.”

Finally, the fact that the term “basis” does not appear in the passage mentioned in the Appeal Brief has no relevance to whether or not one skilled in the art would understand what is claimed when the claim is read in light of the specification. Besides, it is well established that since the term “basis” is used in the original claim as filed, then the term “basis” is part of the specification. See, e.g., *Northern Telecom, Inc. v. Datapoint Corp.*, 15 USPQ2d 1321, 1326 (Fed. Cir. 1990) (the original claims as filed are part of the specification and may provide or contribute to compliance with Section 112).

Accordingly, one skilled in the art would readily understand that the recitation “further comprising the step of using the results of step (b) as a basis for obtaining a result of further calculations” of the claimed method recites a positive active step when analyzing the contents of the specification. As such, appealed Claim 16 is sufficiently clear and definite as to comply with the requirements for definiteness under the second paragraph of 35 U.S.C. §112. Appealed Claim 16 therefore complies with the requirements for definiteness under the second paragraph of 35 U.S.C. §112. Thus, withdrawal of rejection of appealed Claim 16 under the second paragraph of 35 U.S.C. §112 is respectfully requested.

II. Rejection of Appealed Claims 1, 2 and 8 as Anticipated by Heneghan et al.

Appellant respectfully disagrees with the Examiner’s statement in section 10.2 on pages 9-11 of the Examiner’s Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1, 2 and 8 under 35 U.S.C. §102(b) as being anticipated by Heneghan et al. The Examiner’s reasoning is as follows [italics in original]:

“Appellant alleges that the disclosure of Heneghan does not teach a ‘high throughput method for screening fuel additive composition samples, under program control,’ but only teaches a method for analyzing fuel additive compositions. Appellant does not provide any argument stating the minimum requirement for a method to be considered as ‘high throughput’, but merely insinuates that one of ordinary skill in the art would not consider Heneghan to be ‘high throughput’ based on certain captioned sections of the specification reproduced on pages 8 through 10 of the Brief.

Appellant also mistakenly suggests that Heneghan cannot be considered ‘high throughput’ because part of the method taught by Heneghan teaches that a section of instrumental rig is removed, drained, and cut for analysis (Brief, page 11, lines 8-23).

The Examiner disagrees with Appellant's interpretation of the claim language and how it relates to the cited art.

Contrary to what Appellant might suggest at pages 8-10 of the Brief, the captioned portions of specification should not be read into claim 1, as the claim does not require any particular embodiment or further limitation to the phrase ‘high throughput’. For example, one should not read the limitation ‘a plurality of respective test receptacles’ into claim 1 even though the specification (page 5, line 16) suggests that this is a mechanical component that could accompany a high throughput method.

The specification provides the following on the phrase ‘high throughput’:

‘The expression ‘high throughput’ as used herein shall be understood to mean that a relatively large number of different fuel additive compositions or fuel compositions can be rapidly prepared and analyzed.’

Specification, page 5 lines 12-15 (emphasis added).

This definition is broad and uses relative terminology, such as, the phrases ‘relatively large number’ and ‘rapidly.’ Considering that the goal of Heneghan is to better understand the effects of fuel additives to jet fuel compositions, one of ordinary skill in the art would consider Heneghan's method (i.e., as explained by Figure 1 and the disclosure in the section titled, *Experimental Work*) to be high throughput *relative* to performing deposit formation test using actual jet engines and accompanying components for fuel delivery. The system designed by Heneghan is much more simple and convenient for making the measurements than a jet engine, and additionally uses numerous components in combination that could be considered to assist

in processing 'relatively large numbers' of samples in a 'rapid' manner, such as the Sensotech Type TJE pressure transducer that provides the signal to the Micristar controller, the data recording system of the Fluke model 2400B computer with a Model 1722A controller using a Fisher Model 546 I/P converter, the Hewlett Packard 5890 Series II gas chromatograph, and the Leco RC-412 multiphase carbon analyzer (see Heneghan, page 481, col. 2). Furthermore, numerous of these commercial components that are integrated into the fuel analysis system cited by Heneghan in the section titled, *Experimental Work*, on page 481 are 'under program control' as required by claim 1."

It is submitted that the Examiner's position is entirely misplaced. As can be readily seen in the Appeal Brief, Appellant is not reading the specification into the claim. In contrast, the Appellant was establishing that the recitation "high throughput method for screening fuel additive composition samples, under program control" in Claim 1 is necessary to give life, meaning and vitality to the present claims. This was in response to the Examiner's statement in the final Office Action dated February 11, 2008 that "the phrase "high throughput" is part of the preamble and bears very little patentable weight. The Examiner then takes the position in the final Office Action that "Claim 1 is directed to a method for screening fuel additives in fuel compositions by measuring deposit formation, and outputting the result." Thus, the Examiner's erroneously concludes that the term "high throughput" deserves no patentable weight and then proceeds to remove this limitation from the claim.

However, Federal Circuit precedent establishes that "[I]f the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Halliburton Energy Services Inc. v. M-I LLC*, 514 F3d 1244, 85 USPQ2d 1654, 1656 (Fed. Cir. 2008). This is accomplished where the patentee has clearly indicated *via the specification and the prosecution history* that the invention provides

an essential feature and that essential feature appears in a claim preamble. As is the case here, the Examiner repeatedly refuses to recognize that the recitation "high throughput method for screening fuel additive composition samples, under program control" in Claim 1 is necessary to give life, meaning and vitality to the present claims as the purpose of the claims is to conduct a high throughput method under program control, i.e., automated, such that a relatively large number of different lubricating oil composition samples can be rapidly prepared and screened for deposit formation data.

The specification does set forth that the recitations "high throughput" and "program control" are essential features of the claimed invention, i.e., a high throughput method for screening fuel additive composition samples, under program control. For example, the specification sets forth on page 3, lines 1-5:

Accordingly, it would be desirable to rapidly screen a plurality of sample candidate fuel compositions for deposit formation tendencies utilizing small amounts of each sample. In this manner, a high throughput preparation and screening of a vast number of diverse compositions can be achieved to identify which additives and/or compositions have reduced deposit formation tendencies.

The specification further sets forth on page 4, line 20-23:

The methods and systems of the present invention advantageously permit the screening of many different composition samples in an efficient manner to determine deposit formation tendencies of the samples, e.g., how fast deposits form, at what temperatures do deposits form and the weight of the deposits.

The specification likewise further sets forth on page 5, line 10 through page 6, line 14:

The present invention is directed to a high throughput screening method for determining deposit formation tendencies of fuel additive compositions and fuel compositions containing such fuel additive compositions. The expression "high throughput" as used herein shall be understood to mean that a relatively large number of different fuel additive compositions or fuel compositions can be rapidly prepared and analyzed. In a first step of the screening method of the present invention, at least one fuel additive is introduced in a plurality of respective test receptacles so that each receptacle contains a different fuel additive composition having a different composition depending upon the percentage amounts and/or types of the additives combined in each receptacle.

Alternatively, varying quantities of at least fuel and at least one fuel additive are introduced in a plurality of respective test reservoirs so that each reservoir contains a different fuel composition having a different composition depending upon the percentage amounts and/or types of the additives combined with the fuel in each receptacle.

Data regarding the composition of each sample are stored in a data library. Adding the information related to the deposit formation data of each of the stored compositions substantially facilitates the selection of candidate compositions capable of successfully carrying out the deposit formation tests under the desired operating conditions or statutory requirements. Accordingly, storing this information in the combinatorial library not only allows for a rapid selection of multiple fuel compositions in response to new requirements for a given test, but also becomes another piece of information in addition to, for example, storage stability, of the cataloged compositions. This information may also allow for calculating necessary changes of the additives and fuels at the least cost. The procedure is advantageously accomplished under program control and automatically controlled by, for example, a microprocessor or other computer control device. The expression "program control" as used herein shall be understood to mean the equipment used herein in providing the plurality of fuel compositions is automated and controlled by a microprocessor or other computer control device.

The specification still further sets forth on page 18, line 6 through page 19, line 16:

Once the plurality of receptacles have been provided containing fuel compositions, the plurality of fluid samples can then be analyzed for deposit forming tendencies. Referring now to FIG. 2, a system for sequentially analyzing a plurality of fluid samples for deposit formation is schematically illustrated. The samples can include fuel additive compositions containing at least one fuel additive or fuel compositions containing one or more fuels and one or more fuel additives, such as those described herein.

System 200 is schematically illustrated wherein an array of test receptacles 212 are mounted in a holder 215. The system 200 is adapted to accommodate any number of test receptacles 212 (and samples). Each sample is identifiable, for example, by the position of its test receptacle in an ordered array in holder 215, or more preferably by having an identifying mark associated with it. For example, each test receptacle 212 can include an identifying bar code 213 affixed to the outer surface thereof. A bar code reader 225 is positioned so as to be able to read the individual bar codes of the respective test receptacles 212 and to transmit a bar code data signal to a computer controller 230 via a data transmission line 226 to electronically identify the sample. The bar code reader 225 is preferably movable with respect to the holder 215 in response to a signal from computer controller 230 so as to be positionable in alignment with selected individual test receptacles 212.

A robotic assembly 250 includes a movable arm 251 with a grasping mechanism 252. The robotic assembly is adapted to grasp an individual test receptacle 212 in accordance with selection instructions from computer controller 230 and move the test receptacle to a position in testing station 220 so that the sample in the receptacle can be measured for deposit formation data. The computer controller 230 is operatively associated with controls to the robotic assembly via control signal transmission line 231 to selectively retrieve predetermined test receptacles for measurement and then replace them in their assigned respective positions in the holder 215.

Testing station 220 includes means for testing the samples for deposit formation. Deposit formation data results of the test are converted to an electrical or optical signal and transmitted via signal transmission line 223 to computer controller 230. Various means for deposit formation testing are known and generally include subjecting the sample to a deposit formation environment and measuring the deposit formation of the sample over a predetermined period of time.

Clearly, then, the specification stresses that the recitations “high throughput” and “program control” are essential features of the method set forth in the appealed claims in order for a relatively large number of different fuel additive composition samples to be rapidly prepared, screened for deposit formation data and have the data outputted. In addition, the Appellant has maintained throughout the prosecution history that the recitations “high throughput” and “program control” are essential features of the method set forth in the appealed claims. As such, the recitations “high throughput” and “program control” as recited in the preamble of appealed Claim 1 must be regarded as necessary to give life, meaning, and vitality to the claim and may therefore be used as a limitation. Accordingly, Appellant is not reading the specification into the claim. In contrast, Appellant is establishing by way of Federal Circuit precedent that the recitation “high throughput method for screening fuel additive composition samples, under program control” in Claim 1 is necessary to give life, meaning and vitality to the present claims and must be considered when determining patentability of the appealed claims.

Heneghan et al. certainly do not disclose any subject matter that would remotely be considered a high throughput method. In fact, the Examiner has not pointed to anywhere in Heneghan et al. which discloses a high throughput method for screening fuel additive composition samples, under program control, comprising the steps of (a) providing a plurality of

different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b), as presently recited in appealed Claim 1. Therefore, Heneghan et al. cannot possibly disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and in contrast to Federal Circuit precedent.

Additionally, nothing in Heneghan et al. teach the limitations of appealed dependent Claims 2 and 8. Accordingly, appealed Claims 1, 2 and 8 are clearly novel over Heneghan et al.. Thus, withdrawal of the rejection of appealed Claims 1, 2 and 8 under 35 U.S.C. §102(b) is respectfully requested.

III. Rejection of Claims 1-6 and 8-11 as Anticipated by Cherpeck '178

Appellant respectfully disagrees with the Examiner's statement in section 10.3 on page 11 of the Examiner's Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1-6 and 8-11 under 35 U.S.C. §102(b) as being anticipated by Cherpeck '178. The Examiner's reasoning is as follows:

“Appellant alleges that Cherpeck does not teach all of the claimed limitations, namely, the limitation of a "high throughput method for screening fuel additive composition samples, under program control," but only teaches a method for analyzing fuel additive compositions.

Again, Appellant makes certain assumptions and arguments regarding the claimed method that do not involve the actual claim limitations. For example, Appellant states:

‘Accordingly, Cherpeck '178 is no more an anticipatory reference that Heneghan et al. In contrast to the presently claimed invention, Cherpeck '178 discloses that certain Mannich condensation products provide excellent control of engine deposit, including intake valve deposits, with fewer combustion chamber deposits when employed as fuel additives. Cherpeck '178 further discloses in Example 3, which is relied upon by the Examiner, that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing it. Thus, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. At no point, however, is there any disclosure in Cherpeck '178 of a high throughput method for screening a plurality of fuel additive samples for deposit formation.’

Brief, page 13, lines 18-23.

Appellants arguments are misplaced for at least the reason that the method demonstrated in Example 3 allows for a more rapid analysis of samples that that of an automobile. As noted in the arguments above for section 10.2 regarding the rejection over Heneghan, the term "high throughput" is relative, such as relative to testing an actual automobile engine. Regarding program control, the Waukesha DFR single cylinder engine is a program control machine. Accordingly, the limitations of the instantly claimed invention are met.”

As with Heneghan et al., the Examiner’s position is again entirely misplaced. As discussed above, Appellant is simply not reading the specification into the claim. In contrast, Appellant is establishing by way of Federal Circuit precedent that the recitation “high throughput method for screening fuel additive composition samples, under program control” in Claim 1 is necessary to give life, meaning and vitality to the present claims and must be considered when determining patentability of the appealed claims.

Cherpeck '178 is no more an anticipatory reference than Heneghan et al. In contrast to the presently claimed invention, Cherpeck '178 discloses in Example 3, which has been repeatedly relied upon by the Examiner, that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing it. Thus, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. At no point, however, is there any disclosure in Cherpeck '178 of a high throughput method for screening a plurality of fuel additive samples for deposit formation employing the specifically recited steps in appealed Claim 1. Cherpeck '178 therefore cannot possibly disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and once again in contrast to Federal Circuit precedent.

Additionally, nothing in Cherpeck '178 teaches the limitations of appealed dependent Claims 2-6 and 8-11. Accordingly, appealed Claims 1-6 and 8-11 are clearly novel over Cherpeck '178. Thus, withdrawal of the rejection of appealed Claims 1-6 and 8-11 under 35 U.S.C. §102(b) is respectfully requested.

IV. Rejection of Claims 1-11 as Anticipated by Cherpeck '315

Appellant respectfully disagrees with the Examiner's statement in section 10.4 on pages 11 and 12 of the Examiner's Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1-11 under 35 U.S.C. §102(b) as being anticipated by Cherpeck '315. The Examiner's reasoning is as follows:

“Appellant alleges that Cherpeck does not teach all of the claimed limitations, namely, the limitation of "high throughput method for screening fuel additive composition samples, under program control," but only teaches a method for analyzing fuel additive compositions.

Appellant is again mistaken in the construction of claim 1, specifically, as it applies to the "high throughput" and "under program control" limitations.

Cherpeck does teach a ‘high throughput method for screening fuel additive composition samples, under program control.’ For example, see Example 14 in col. 21. The system in Cherpeck is a TGA system that is operated by microcomputer. Again, the system processes and analyzes fuels more rapidly than that of an engine, or those done by manual TGA, thereby making Cherpeck's method "high throughput" as required by the claim. There is nothing in Claim 1 that requires complete automation with fully integrated robotics and computer command control as Appellant would appear to suggest.”

As with Heneghan et al. and Cherpeck ‘178, the Examiner’s position is again entirely misplaced. As discussed above, Appellant is simply not reading the specification into the claim. In contrast, Appellant is establishing by way of Federal Circuit precedent that the recitation “high throughput method for screening fuel additive composition samples, under program control” in Claim 1 is necessary to give life, meaning and vitality to the present claims and must be considered when determining patentability of the appealed claims.

Cherpeck ‘315 is no more an anticipatory reference than Heneghan et al. and Cherpeck ‘178. In contrast to the presently claimed invention, Cherpeck ‘315 discloses in Example 14, which has been repeatedly relied upon by the Examiner, that the thermal stability of various test samples was measured by thermogravimetric analysis (TGA) employing a DuPont 951 TGA instrument coupled with a microcomputer for data analysis. Each example carried out by Cherpeck ‘315 is a manual laboratory test. Thus, at no point is there any disclosure in Cherpeck ‘315 of a high throughput method for screening a plurality of fuel additive samples for deposit

formation under program control employing the specifically recited steps in appealed Claim 1. Cherpeck '315 therefore cannot possibly disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and once again in contrast to Federal Circuit precedent.

Additionally, nothing in Cherpeck '315 teaches the limitations of appealed dependent Claims 2-11. Accordingly, appealed Claims 1-11 are clearly novel over Cherpeck '315. Thus, withdrawal of the rejection of appealed Claims 1-11 under 35 U.S.C. §102(b) is respectfully requested.

V. Rejection of Claims 1-6, 8-13, 15 and 17 as Obvious over Cherpeck '178 and Burow

Appellant respectfully disagrees with the Examiner's statement in section 10.5 on pages 12-14 of the Examiner's Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1-6, 8-13, 15 and 17 under 35 U.S.C. §103(a) as obvious over Cherpeck '178 and Burow. The Examiner's reasoning is as follows:

“Appellant traverses the rejection and makes the allegation that Burow is no more relevant to claim 1 than Cherpeck because Burow does not relate to fuels:

‘In fact, nothing in Burow et al. even remotely discloses a high throughput method for screening fuel additive composition samples for deposit formation, under program control, comprising the steps of (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and (c) outputting the results of step (b) as presently recited in appealed Claim 1.’

Brief, page 16, section E, first paragraph.

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim 12 recites the following:

'The method of claim 1, wherein a robotic assembly selectively retrieves the samples from an array of samples and individually positions the samples in a testing station for determination of the deposit formation.'

Therefore, Claim 12 requires much less than suggested by Appellant on pages 17 and 18 of the Brief with regard to merging the engine of Cherpeck with a robot that positions samples from an array into a 'testing station' as taught by Burow. Although Appellant goes to great effort to import certain effects into claim 12, there is actually nothing particular about the 'testing station' that is beyond the teachings of the references that would not be recognized as obvious by one of ordinary skill in the art. The so-called 'testing station' is a very broad term, and reads on a 'holding station' or a generic component for samples prior to or during testing. For example, regarding the claimed testing station, see the testing station 220 in Figure 2, and description thereof from the specification:

'A robotic assembly 250 includes a movable arm 251 with a grasping mechanism 252. The robotic assembly is adapted to grasp an individual test receptacle 212 in accordance with selection instructions from computer controller 230 and move the test receptacle to a position in testing station 220 so that the sample in the receptacle can be measured for deposit formation data. The computer controller 230 is operatively associated with controls to the robotic assembly via control signal transmission line 231 to selectively retrieve predetermined test receptacles for measurement and then replace them in their assigned respective positions in the holder 215.'

Testing station 220 includes means for testing the samples for deposit formation. Deposit formation data results of the test are converted to an electrical or optical signal and transmitted via signal transmission line 223 to computer controller 230. Various means for deposit formation testing are known and generally include subjecting the sample to a deposit formation environment and measure the deposit formation of the sample over a predetermined period of time.'

Specification, page 19, lines 7-20.

Accordingly, the merging of general robotics for making measurements from multiple samples of Cherpeck is within the routine knowledge of one of ordinary skill in the art, and would be recognized as obvious for the benefits of increasing the speed at which current samples in Cherpeck can be performed. Absent a showing of unexpected results, or a particular mechanical/electrical/chemical embodiment, the claims are obvious."

The Examiner's characterization of Appellant's argument is entirely misplaced.

Appellant is not attacking the references individually. In contrast, Appellant first responded to the Examiner's misguided belief that Example 3 of Cherpeck '178 teaches testing multiple fuel samples by measuring their deposit formation. However, as discussed above, Cherpeck '178 does not disclose or suggest a "high throughput method for screening fuel additive composition samples, under program control, comprising: (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b)" as presently recited in appealed Claim 1. Rather, Cherpeck '178 discloses in Example 3 that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane

and weighing it. Thus, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process.

As such, there is simply no reason why one skilled in the art would even look to Cherpeck '178 and Burow et al. In fact, even by combining Cherpeck '178 with Burow et al. one skilled in the art would not even arrive at the claimed invention. With this said, nothing in Burow et al. would lead one skilled in the art to look to the disclosure of Burow et al. to modify the disclosure of individually testing the deposit reducing capacity of a Mannich condensation product blended in gasoline by running an ASTM/CFR single-cylinder engine as in Cherpeck '178 and arrive at the high throughput method, as set forth in the present claims, conducted under program control. The Examiner can only arrive at his erroneous conclusion by using Appellant's disclosure as a guide to piece together the claimed invention.

Accordingly, appealed Claims 1-6, 8-13, 15 and 17 are clearly nonobvious, and are therefore patentable, over Cherpeck '178 and Burow et al. Thus, withdrawal of the rejection of appealed Claims 1-6, 8-13, 15 and 17 under 35 U.S.C. §103(a) is respectfully requested.

VI. Rejection of Claims 1-11, 62 and 63 as Obvious over Cherpeck '315

Appellant respectfully disagrees with the Examiner's statement in section 10.6 on page 14 of the Examiner's Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1-11, 62 and 63 under 35 U.S.C. §103(a) as obvious over Cherpeck '315. Specifically, the Examiner's maintains that "The Examiner disagrees with Appellant for the reasons provided in the Examiner's response detailed above in section 10.4." However, as discussed above, Cherpeck '315 does not disclose or suggest a "high throughput method for screening fuel additive composition samples, under program control, comprising: (a) providing a plurality of

different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b)” as presently recited in appealed Claim 1.

Rather, Cherpeck ‘315 discloses in discloses in Example 14, which is relied upon by the Examiner, that the thermal stability of various test samples was measured by thermogravimetric analysis (TGA) employing a DuPont 951 TGA instrument coupled with a microcomputer for data analysis. Each example carried out by Cherpeck ‘315 is a manual laboratory test. As such, there is simply no reason why one skilled in the art would even look to Cherpeck ‘315. Thus, nothing in Cherpeck ‘315 would lead one skilled in the art to look to Cherpeck ‘315 to modify the manual laboratory test disclosed therein and arrive at the high throughput method, as set forth in the present claims, conducted under program control. The Examiner can only arrive at his erroneous conclusion by using Appellant’s disclosure as a guide to piece together the claimed invention.

Accordingly, appealed Claims 1-11, 62 and 63 are clearly nonobvious, and are therefore patentable, over Cherpeck ‘315. Thus, withdrawal of the rejection of appealed Claims 1-11, 62 and 63 under 35 U.S.C. §103(a) is respectfully requested.

VII. Rejection of Claims 1-6, 8-15 and 17 as Obvious over Cherpeck '178, Burow and Lutterman

Appellant respectfully disagrees with the Examiner’s statement in section 10.7 on page 14 of the Examiner’s Answer where the Examiner sets forth his reasoning in rejecting appealed Claims 1-6, 8-15 and 17 under 35 U.S.C. §103(a) as obvious over Cherpeck '178, Burow and Lutterman. Specifically, the Examiner’s maintains that “The Examiner disagrees with Appellant

for the reasons provided in the Examiner's response detailed above in section 10.5. However, as discussed above, Cherpeck '178 does not disclose or suggest a "high throughput method for screening fuel additive composition samples, under program control, comprising: (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b)" as presently recited in appealed Claim 1. Rather, Cherpeck '178 discloses in Example 3 that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing it. Thus, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process.


As such, there is simply no reason why one skilled in the art would even look to Cherpeck '178 and Burow et al. Luttermann et al. do not cure and are not cited as curing the deficiencies of Cherpeck '178 and Burow et al. In contrast, Luttermann et al. are merely cited for the disclosure of combinatorial approaches using decision making processes for selection of positive samples for further testing. Thus, even by combining Cherpeck '178, Burow et al. and Luttermann et al., one skilled in the art would not even arrive at the claimed invention. Accordingly, nothing in Luttermann et al. would lead one skilled in the art to look to the disclosure of Luttermann et al. to modify the disclosures of Burow et al. and Cherpeck '178 and arrive at the high throughput method, as set forth in the appealed claims, conducted under program control, such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation with any expectation of success. The Examiner can only arrive at such a conclusion by using Appellant's disclosure as a guide to piece

together the claimed invention.

Accordingly, appealed Claims 1-6, 8-15 and 17 are clearly nonobvious, and are therefore patentable, over Cherpeck '178, Burow et al. and Luttermann et al. Thus, withdrawal of the rejection of appealed Claims 1-6, 8-15 and 17 under 35 U.S.C. §103(a) is respectfully requested.

Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. §§1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-3591. **TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.**

Dated: March 25, 2009

By: 
Michael E. Carmen
Reg. No. 43,533
Attorney for Applicant

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg